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September 8, 2002

Ray Plieness
Department of Energy
Oak Ridge Operations
Weldon Spring Site
Remedial Action Project Office
7295 Highway 94 South
St. Charles, MO 63304

Dear Mr. Pleiness,

Here is my personal response to the August 9, 2002 draft Long-Term Stewardship Plan for the U.S. Department of Energy Weldon Spring, Missouri, Site.

F-1 1. In quantitative terms, what does the disposal cell contain? (LTSP, Table 2-3 & pp. 2-15 & 16)

Response F-1: See response to A-7 and A-56.

F-2 a. How are various waste streams expected to decompose within the disposal cell?

Response F-2: There are only two waste streams susceptible to decomposition:
- Wood and similar matter of vegetal origin and
- The peat component of the geochemical barrier.

1. Wood-type products.

As discussed in the answer to comment F-4, wood products in general may undergo two decomposition scenarios: aerobic and anaerobic.

Aerobic decomposition of the wood waste streams placed in the Weldon Spring disposal cell is prevented by absence of sufficient oxygen quantities required by this process. Mixing the chipped wood with soil resulted in a soil-like material having no more than 30% organic volume. Larger wood pieces were either entombed in CSS grout or in soil layers at sufficient distance from one another to prevent forming of larger pockets of voids.

Immediate capping with subsequent soil or CSS layers prohibited any sustainable communication with the exterior and cut the flux of oxygen. In consequence, the only decomposition expected to occur is anaerobic.

2. Peat constituent of the Geochemical Barrier.

Peat constitutes 25% of the volume of the geochemical barrier. Its performance is directly related to the anaerobic decomposition processes expected. The same methanogenic bacteria responsible for the organic decomposition of the peat fulfill the buffering of the leachate uranium constituents. Peat decomposition is thus a designed function of the disposal cell.

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F-3

b. What, quantitatively and qualitatively are expected to be the by-products of such decomposition? Will gases such as methane and radon be vented?

Response F-3: Decomposition processes are essentially converting the organic carbon present in wood or peat into carbon dioxide, water and methane gas. Proceeding these reactions some limited amount of carbon is used in denitrification and sulfate reduction processes, their by-products being nitrogen, hydrogen sulfate and water. The three processes listed are consecutive, the dominant and longest lasting one being methanogenic decomposition.

Methane gas is presently venting through the LCRS pipes and is captured and released in the atmosphere in the external leachate collection sump.

Radon gas is not a by-product of any of these decomposition processes.

F-4

c. Can oxidation and reduction be expected to take place within the disposal cell? Is there any possibility that excessive heat can build up during re-dox or other processes?

Response F-4: The concerns raised by the comments are valid for certain well-defined scenarios, most of which involve either composting protocols or disposal of organic mass in demolition or municipal landfills. The commentator references the quantity of more than 10,000 cubic yards of wood or other similar materials incorporated into the waste mass as a possible source of excessive heat generation.

Decomposition of vegetative organic mass may follow two fundamentally different biochemical processes: aerobic or anaerobic. Aerobic processes, characterized by presence of sufficient Oxygen, moisture and nutrients, are exothermal in nature. Heat in the decomposing mass raises continuously until it reaches a level unsustainable for the bacterial life. Further temperature increases, to the point of combustion, is possible solely through chemical reactions. In the absence of chemical reagents capable to sustain such reactions, the bio-mass reverts to an anaerobic decomposition process. Anaerobic processes are not exothermic and thus the temperature decreases to that of the surrounding environment.

The organic materials present in the Weldon Spring Disposal Facility were not placed in configurations that would have encouraged exothermal decomposition. All wood products were disposed in accordance with one of the following two scenarios:

1. Wood that could be chipped or otherwise similarly size reduced was composted on site and then mixed with soil in a homogeneous mixture containing no more than 30% by volume wood waste. The resulting mix behaved and was placed and compacted as regular soil.
2. Wood pieces that could not be size reduced (large root balls for example) were entombed in CSS grout or in common soil waste. In either case, they were spaced from one another in the soil mass such as no detrimental local settlement may occur. A corollary to this spacing was that no piling of combustible materials was possible.

The dispersion of organic matter in the entombing soil mass and the presence of thick and dense overlying layers of soil, synthetic liners and rock do not create favorable conditions for oxygen ventilation, the environment being lethal for aerobic bacterial decomposition. Anaerobic processes are possible and predictable, but they do not result in heat generation.

Temperature monitoring of the cell interior would be at the best futile, since no heat is expected to be produced. Additionally, since the upper clean layers are an excellent temperature buffer, any non-intrusive monitoring would be impossible. Intrusive monitoring would compromise the integrity of the cell encapsulation system, with no evident benefits.

There is however some information regarding the cell internal temperature ranges. A second source of organic decomposition, not referenced by the commentator is the Geochemical Barrier Layer. Since this layer is directly above the primary LCRS, a temperature build-up would transfer to the leachate and would be detected in the LCRS external sump. Measurements of the leachate temperature indicate only a 50 to 60 degrees range, typical for deep soil-type of environments, buffered from external variations.

F-5 | 3. What is the guarantee or warranty period for each HDPE liner used within the disposal cell? (LTSP, p. 2-15)

Response F-5: Three types of HDPE liners were used in the construction of the cell as follows:

1. An 80-mil, textured, white-surface HDPE liner for the bottom cell system.
2. An 80-mil, textured, white surfaced HDPE with a bentonite coating for the cell cover.
3. A 60-mil smooth HDPE liner as part of the outer containment of the leachate pipes trenches.

The issue of "warranties" for these products has to be addressed from two different perspectives:

1. First, a warranty of 5-years for materials and 2-years for workmanship was requested from the supplier/installer of these products. This duration is by no means implying the performance life, but is solely stating that the manufacturer is not responsible for the design conditions (stresses) in which these materials will perform.
2. Second, the design criteria for the disposal cell require "effective control of wastes for up to 1000 years, and in any case for at least 200 years", per 40 CFR 192. The 200-year interval was targeting synthetic materials (as HDPE) and frost penetration, since no data existed to confirm their survivability for much longer periods.

On a more realistic basis, in absence of UV radiation the chemistry of the HDPE materials makes their degradation extremely slow and more recent research suggested performance life of over 700-years.

F-6 | a. Video recorded during the Earth Day 2002 tour of the Disposal Cell site mentioned that the HDPE liner was expected to remain impermeable for 30 years. If such limitation is at least approximately correct, the fact needs to be in the description of the liners.

Then, methods and budgets for replacing or restoring the liners need to be addressed in the proposed stewardship plan that is considered to be "long term."

Response F-6: The 30-year period refers to the regulatory "30-years post closure" performance. The designer assumed extremely conservative conditions for the period following these first 30-years, and discounted the contribution of the HDPE liners in reducing the infiltration through the cap. Without such a hypothesis, the infiltration rate that would have resulted would be essentially zero. This assumption is purely theoretical. The HDPE liners will provide their function for much longer periods of time.

F-7 b. If/when the HDPE liners begin to fail, what effects can be anticipated? How will changes in ground water composition be monitored in 35 years? How will residents of St. Charles County be informed of negative or positive changes?

Response F-7: The answers to the preceding parts of the comment already contain much of the response. Also refer to the response to comment F-6. In addition, consider the following:

1. HDPE liners do not fail abruptly, they do not suffer accelerated decompositions. Any loss of polymeric mass is gradual and hundreds of years are necessary until the remaining mass cannot sustain anymore the environmental stresses and strains.
2. As discussed above, on a purely theoretical basis the design calculations assumed the HDPE to "vanish" after 30-years. The infiltration through the cover still remains minimal due to other protective elements like the bentonite layer and the 3-foot low permeability soil liner. Changes to GW monitoring due to a speculative estimate are thus unwarranted.

F-8 3. When tax payers spend $850-950 million on a clean-up project in 16 or so years, the clean up needs to be complete before the responsible agencies are geographically detached or progressively disengaged from duty.

Response F-8: Comment noted.

F-9 a. It is not acceptable that applicable or relevant and appropriate requirements (ARARs) for ground water anywhere on site are left to Records of Decision signed by Environmental Protection Agency after September 30, 2002. (LTSP, p. 2-24)

Response F-9: The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) mandates that Applicable and/or Relevant and Appropriate Requirements (ARARs) be identified in the legally binding Records of Decision which are approved by the EPA. The WSSRAP Groundwater Operable Unit Record of Decision is currently scheduled for completion and approval in 2003, therefore, ARARs will be established at that time.

F-10 b. To suggest that "DOE will revise this plan to incorporate stewardship provision of the rememdy selected for contaminated ground water at the Chemical Plant when that Record of Decision is finalized" seems similar to any real estate transaction where potentially great liabilities are being transferred to an unsuspecting or trusting new owner or tenant by an agent who remains in a position to act in multiple "self-serving" or progressively negligent ways as soon as the transaction is concluded. (LTSP, p.1-1) The LTSP needs to include language that ensures such abuses will be avoided.

Response F-10: DOE submits that the Department is fully cognizant of site conditions that will exist when the Ground Water OU remedy is approved, and DOE is the steward that will implement the remedy. Stewardship procedures will be specified in the LTS Plan, which will be released in draft form for community comment.

F-11 c. What is the rationale for excluding Missouri Dept. of Natural Resources from the Federal Facilities Agreement? If there is any good faith between MDNR and DOE, MDNR should be included in the FFA as an honorable and influential decision making partner. Without such co-operation, more and more informed citizens in Missouri will learn to recognize the coersion they are up against from absentee federal agencies. An ever increasing few are likely to find the strength to fight back at ever growing tax payer expense.

Response F-11: The MDNR was provided several opportunities to become a signatory to the FFA earlier in the project. Each time it declined. Renewed negotiations in recent years to modify the agreement bogged down upon MDNR's insistence that funding guarantees for its oversight be placed in the agreement. DOE's management has determined that the project is so close to completion, which should lead to termination of the FFA, that the best coarse of action is to develop a post-closure agreement with EPA to address long term issues at the site. MDNR will be given an opportunity to become a signatory party to this agreement.

F-12 4. Who pays when the drinking water well fields become contaminated? Is there a contingency budget plan for such expenses? (LTSP, pp. G-1 to 3)

Response F-12: DOE has committed to bear any expense relative to ensuring a safe and clean drinking water supply from either the present well field or from an alternate source. Note that DOE's liability extends only to protection from contaminants for which the Department is responsible. DOE cannot tie up funds for contingency over multiple fiscal years but does have discretionary monies available to use if necessary.

F-13 "The ground water standard of 20 pCi/L was exceeded at 13 locations, all located north of Femme Osage Slough" "No locations south of Femme Osage Slough had uranium levels that exceeded background. Contamination north of the slough had no measurable impact on the drinking water source in the Missouri River alluvium." (Figure 2-15) LTSP, pp. 2-32 & 2-34.

a. What was considered "background," and what efforts were made to measure impacts on the Missouri River alluvium?

Response F-13: The average background in the Missouri River alluvium is 2.77 pCi/l as established from data obtained from the Darst Bottoms, located upgradient from the St. Charles County well field. This information will be included in Section 2.4.3.2.

The statement that "no locations south of the Femme Osage slough had uranium levels that exceeded background" is supported by data collected since 1986. A total of 980 samples from the monitoring wells, RMW-series wells, and the production wells have been analyzed for total uranium. Of these, 90% have been below the average background value of 2.77 pCi/l and none of the samples have been greateer than the maximum background concentration for uranium (14.3 pCi/l) observed in the Darst Bottoms wells. These data support the conclusion that uranium contamination north of the slough has had no measurable impact on the production wells south of the slough. The discussion in Section 2.4.3.2 can be modified to include some of this historic information.

F-14

"Cleanup objectives are met when the uranium target concentration 300 pCi/L and the 2,4-DNT standard of 0.11 µg/L are not exceeded at the 90th percentile in a 12-month monitoring period, and trend analysis indicates that contaminant levels are decreasing. If either analyte meets these criteria, monitoring of that analyte can be discontinued." (LTSP, p. 3-10)

b. Regardless of differences in monitoring objectives north and south of the Femme Osage Slough, a target concentration of 300 pCi/L seems a high limit, especially when coupled with the notice that monitoring of particular analytes can be discontinued depending on a decreasing trend analysis. (LTSP, p. 3-10)

Response F-14: Consistent with the remediation goals outlined in the Record of Decision, the goal of the long-term monitoring being performed for groundwater north of the slough is to observe reduction in the uranium concentrations so that the amount of uranium that could potentially migrate to the St. Charles County well field is likewise reduced. Therefore, a target concentration equivalent to 10% of the maximum concentration would present a 90% reduction of the amount that could potentially migrate. The approach is considered to provide further protectiveness to the St. Charles County well field in addition to the already protective conditions that currently and will continue to exist.

At the quarry, there are only two contaminants of concern (analytes), uranium and 2,4-DNT. Other parameters are being monitored to evaluate the geochemical conditions of the quarry during the long-term monitoring program. An analyte can only be removed from the monitoring program if the 90th percentile of the data is below the target level (300 pCi/l for uranium or 0.11 µg/l for 2,4-DNT) AND downward trends in the subject analyte have been determined in all of the wells. This condition was made because it is predicted that the 2,4-DNT in groundwater will fall below the target level of 0.11 µg/l before uranium and can be removed from the monitoring program.

F-15 c. Even if a 20 pCi/L standard is used south of the slough, the LTSP does not indicate what actions will be "triggered" by exceedance "maximums" or "averages" during annual "grab sample" events. (LTSP, p. 3-11) For protecting such a valuable resouce as the St. Charles County Well Field, this section of the LTSP seems especially hazy and prone to inadequacy.

Response F-15: The discussion on this page will reference that the contingencies are outlined in Section 3.9.2.2. Contingency actions will be initiated if a single sample exceeds the trigger level of 20 pCi/l. The first action is that the DOE will notify EPA-Region 7, MDNR, and St. Charles County. If the increased value is determined to be valid, DOE will reevaluate the potential for significant impacts to the well field and the alluvial aquifer. It should be remembered that contingencies have been established for groundwater north of the slough (area of impact), where changes should be seen prior to increases south of the slough. If a consistently upward trend is observed for three consecutive sampling events, DOE will investigate the contaminant source and transport mechanism. This may include conducting hydrogeologic and/or contaminant investigations, installing additional monitoring wells, or increasing the sampling frequency of the monitoring network.

Table 3-5 in Section 3.6.1.3 indicates the monitoring frequency for monitoring wells located south of the slough. Monitoring wells immediately south of the slough will be sampled semiannually and the RMW-series wells located further downgradient in the well field will be sampled annually. These frequencies were established based on groundwater travel times from north of the slough to each of the monitoring lines.

F-16 5. Under Ground Water Contingency Actions described in section 2.9.2.2. Quarry residuals Operable Unit (LTSP, pp. 3-15 & 16), is stated "If uranium in ground water south of the slough no longer remains below the trigger level of 20 pCi/L, DOE will notify EPA Region 7, MDNR, and St. Charles County. If the increased value is determined to be valid, DOE will reevaluate the potential for significant impacts to the well field and the alluvial aquifer. This evaluation may include . . . "

F-16 cont.

a. When would such potentially significant information be revealed to the general public of St. Charles County? Who among DOE personnel will be qualified to "reevaluate" the potential for significant impacts with respect to potential health effects? Within what time period will such information be disclosed to EPA, MDNR and St. Charles County, if not the citizenry? The terms "may include" needs to be changed to "will include" including a specified period of time for beginning and completing each operation. Possibly, an *additional* list of measures that "may" be elected (including timing parameters) could be used.

Response F-16: DOE anticipates the Department and the County or the State will reveal the presence of elevated uranium in ground water south of the slough in a joint communication after results have been confirmed. DOE does not notify the public directly. DOE currently uses specialists from the national laboratories and other DOE installations to conduct health risk evaluations for the Weldon Spring site. Qualified persons are on staff at the Grand Junction Office and the Weldon Spring site to evaluate risk, contaminate transport, and fate, and to conduct modeling, if necessary. Regulators and oversight stewards also will have experts available for independent review. As stated in Section 3.9.2.2, paragraph 4, DOE will disclose concerns about ground water chemistry upgradient of the slough to EPA, MDNR, and the County as soon as those concerns are identified. DOE expects those agencies to work with DOE to confirm results. Not all evaluation options are appropriate for all circumstances involving elevated uranium upgradient of the well field. DOE declines to commit to conducting all evaluation options in any instance; and therefore will not change "may" to "will." Different evaluation methods require different amounts of time, and the time required for completion of these evaluations cannot be predetermined.

F-17

In a water-rich state such as Missouri, the Department of Natural Resources has published a brochure that emphasizes "Once pollution is discovered, cleanup is very expensive. Therefore, the best protection for our ground water is to prevent contamination." Without frequent, valid testing on a continous basis, contamination prevention in an area with porous topography and markedly variable water levels could be practically impossible. Agencies who conduct and govern testing on fundamental, common resources such as water, soil and air, need to accurately report, not only to each other, but to the general public through news agencies and public meetings and readily accessible publications.

Response F-17: Agree. DOE has published an annual report of monitoring results for the Weldon Spring site since 1986. Additionally, DOE will have available by January 2003 an on-line geographic information system that will present monitoring data as soon as it has been checked against quality assurance requirements. That system is available for other LTS sites at http://www.gjo.doe.gov/programs/ltsm/. Data will be available for export and downloading so members of the public can perform their own analyses.

F-18 6. It seems to my husband, Dan, and me that there are many, many loose ends and vague assurances throughout the August 9, 2002 Long Term Stewardship Plan Draft. Both Dan and I are particularly interested in risks to the public and to the environment for the Weldon Spring site. (LTSP, p. 3-1)

a. The general public needs to be made aware of the way risk to public health is calculated throughout the Weldon Spring site. Such calculations need to be presented clearly in the Long Term Stewardship Plan, so that local residents and workers and visitors could possibly learn to make decisions according to individual differences in cumulative risks of exposure to radiation.

It is scientifically established that all radiation exposure creates some risk of damage to tissues, cells, DNA and other vital molecules. Any exposure increases risk of cell death, genetic mutations, cancers, leukemia, birth defects and reproductive, immune and endocrine system disorders.

Response F-18: The risk calculations for the Weldon Spring site were conducted consistent with EPA methodology for use at radioactively contaminated CERCLA sites, as the site is on the National Priorities List. These assessments were reviewed by EPA and the state of Missouri prior to issuance of the various documents. A summary of the EPA methodology that has been used in these risk assessments will be provided in the next version of the LTS Plan. Brief summaries of the risk assessment results will also be provided to support discussions of stewardship activities, as appropriate.

Radiation can produce a number of deleterious health effects as noted here. However, the endpoint of the radiological risk assessments were limited to the increased likelihood of cancer induction, consistent with EPA guidance for performing such assessments. In discussing the results of the radiological risk assessments in support of this LTS Plan, the DOE will acknowledge the additional health effects associated with radiation exposure including those identified here.

F-19 b. Regarding 3.3 Follow-up Inspections, under 3.3.1 Criteria, “In the event of an incident or activity that threatens or compromises institutional controls or poses a risk of exposure to or release of known contaminants, DOE may, as appropriate, notify EPA and MDNR, begin the DOE occurrence notification process (DOE Order 232.1) . . . etc. Again, “may” is completely indefinite. No timelines are designated, and the persons affected, and potentially affected, whether employees or visitors or area residents are not included in the LTSP that has been presented. Even under serious or emergency conditions, DOE has 60 days to submit any preliminary report to EPA or MDNR. Otherwise, DOE will simply include follow-up inspection reports about “threatening or unusual site conditions” in the next annual inspection report.

Again, the general public, as well as properly trained and equipped government agencies, deserve to be kept abreast of unusual and threatening conditions at the Weldon Spring site in a timely, perceptive and responsible manner. Inspectors should include experienced physicians, as well as experienced “engineers or scientists.”

Response F-19: DOE is required by law and guidance to keep exposure to workers and the public as low as reasonably achievable. DOE will revise Section 3.9, paragraph 3, to read, :"DOE will notify appropriate authorities immediately if an emergency situation is encountered." Emergency situations are defined in the preceding paragraph.

DOE agrees that the Weldon Spring stewardship community should be kept informed of unusual or threatening conditions at the site. DOE declines to include experienced physicians on routine inspection teams. DOE, EPA, or the state may need to call persons with this expertise if an emergency situation arises.

F-20 7. Under 3.13 Records and Data Management:

The local stewardshp documents may include the following."

a. Why is the word "may" used instead of "will"?

Response F-20: DOE will maintain the CERCLA Administrative Record at or near the site and keep it available for public review. DOE intends to rely most heavily on Internet access for information. The Internet collection will be far more comprehensive than the local library is willing to administer, will be available 24 hours a day, and will be a more efficient use of government resources to maintain. Section 3.13 will be revised to clarify where documents will be kept and how they will be made available.

F-21 b. The LTSP description of the location where listed documents will be kept is confusing. The place and time of delivery to each location needs to be made very clear to ensure that accidental losses do not occur, and that appropriate and useful retrieval can be made efficiently in the future.

In particular, the LTSP (containing an accurate account of the volumes of contaminants stored within the disposal cell) needs to be kept nearby, but off site, in case of some incendiary disaster that would prompt questions from fire and emergency personnel about the extent and properties of released contaminants.

Response F-21: See response to Comment F-20.

F-22 c. "Dedicated haul roads between the Chemical Plant site and the quarry and a borrow area have been reclaimed as a hike and bike trail (the Hamburg Trail). DOE converted a metal building into an interpretive center for the public and installed a ramp and platform on the disposal cell for public access." (LTSP, p. 2-15)

Gamma radiation measurements around the disposal cell and haul roads where background levels are declared to be between 2016 and 3609 cpm and 5500 to 8250 cpm still create some concern for me. I do not fully understand the Radiological Survey Report issued by Earl Dowell, James Meier and David Flemming on 8/16/02 or Jim Meier's /Morrison Knudsen Corp. report dated 8/29/02. However, until it becomes clearer to me that net CPMs around and within the Interpretive Center are close to net

F-22 cont.

CPMs at a more neutral location than nearby portions of the Weldon Spring site itself, I do not feel comfortable attending meetings and performing research on site at Weldon Spring.

I would always prefer to go the St. Charles City-County Library to review all Pre-stewardship and ongoing stewardship documents that "contain critical information needed to ensure the continued management and the follow-on actions and controls (including property mangement) required to protect public health and the environment and to demonstrate compliance with applicable legal requirements." (LTSP, pp. 3-20 & 21)

Response F-22: See response to Comment C-4. The St. Charles City-County Library System is unable to support a comprehensive collection of Weldon Spring documents. See also response to Comment F-20.

F-23

d. If "Pre-Stewardship" documents are to be placed at The Regional Records Center in Kansas City in the designated archive faciity for Weldon Spring records, the general public, among others, needs to have complete and clear instructions about the way to access all of this information. If additional records are to be kept by the Dept. of the Army or others, all of these details need to be spelled out very clearly.

Response F-23: Site records critical to long-term stewardship will be placed in a permanent site record at the Grand Junction Office. An index of these will be available on-line, as will a large subset of site information. All site information, including that sent to the records center, is available to the public for research through the Freedom of Information Act (FOIA contact information is given in response to Comment B-27). Much pre-stewardship material may be available through the Weldon Spring Office until that facility is closed. After that time, access and retrieval can be accomplished through the DOE Grand Junction Office. DOE cannot comment on the Army plans for document archiving and retrieval.

F-24

Sometimes I let myself imagine briefly that most details related to events at the Weldon Spring site are kept as vague and approximate as possible for security reasons or as a means of reducing redundant office work – or other unknown or undisclosed reasons such as implicit desires for cost-cutting or local or national political *quid pro quo*, etc.

After finallly reading the often-pledged Long Term Stewardship Plan Draft of August 9, 2002,
I am now much more concerned that the reason facts remain vague and plans remain indefinite and incomplete must be a reflection of managerial attenuation and generalized lack of immediate

F-24 cont. knowledge of conditions and technical possibilities at the Weldon Spring site – a lack at least sufficient to prepare a presentable stewardship plan.

Response F-24: Comment noted.

F-25 By today, my final comment is that I believe almost all of the extensive criticism and residual correspondence related to the LTSP could have been avoided if the leaders and routine staff at the U.S. Department of Energy had not underestimated the expectation of performance in creating a useful, genuinely long term, stewardship document. The importance and inevitable concern and mettle of the citizens of St. Charles County and of all the tax payers who invest both trust and wealth in agencies, such as the Department of Energy, can not be minimized successfully.

Response F-25: Comment noted.

Sincerely yours,

Virginia “Louise” McKeel

LTSM Long-Term Surveillance and Maintenance Program

Mission: Fulfill DOE's responsibility to implement all activities necessary to ensure regulatory compliance and to protect the public and the environment from long-lived wastes associated with the nation's nuclear energy, weapons, and research activities.

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Long-Term Stewardship Workshop

LTS Records | LTS GIS

Watch this website for details about the 5th Long-Term Stewardship Conference, coming in Spring 2003

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